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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-----------------------|---------------------|------------------|
| 10/550,807 | 06/15/2006 | David Andrew Horsnell | 16970US01 | 3988 |

23446 7590 01/22/2009
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| EXAMINER |
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MARTIN, LAURA E

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| ART UNIT | PAPER NUMBER |
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2853

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| MAIL DATE | DELIVERY MODE |
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01/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|----------------------------------------|--|
| Office Action Summary | Application No. 10/550,807 | Applicant(s) HORSNELL ET AL. | |
| | Examiner LAURA E. MARTIN | Art Unit 2853 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 10/27/08 have been fully considered but they are not persuasive.

Applicant argues that the Office Action dated 8/5/08 has not established a prima facie case of double patenting; however, the examiner disagrees.

Both claim 1 of the present application and claims 1-11 and 28-44 of copending application 10/520912 claim the following:

- Operating a drop on demand ink printer at a fluid pressure between 1 and 3.5 bar
- An image forming composition having a viscosity in a range from 5 to 20 cp
- A nozzle array having nozzle orifices with diameters in the range of 20 to 200 micrometers
- A solenoid valve
- A plunger having a diameter of less than 2.5 mm and journaled for axial reciprocation between a rest and an operative position
- An electric coil under the influence of a magnetic field generating an electric current through a coil
- A valve head chamber having an outlet nozzle bore
- A fluid flow path

Art Unit: 2853

- A plunger of a unitary construction made from an electromagnetically soft material having a saturation flux density greater than 1.4 Tesla, a coercivity of less than 0.25 ampere per meter, and a relative permeability in excess of 10000
- A nozzle bore having a length to diameter ratio of less than 8:1

The copending application teaches the claim limitations of claims in the present application. While the wording is different, the limitations are substantially the same such that it constitutes double patenting.

Both claim 1 of the present application and claims 41-57 of copending application 10/504474 claim the following:

- Operating a drop on demand ink printer at a fluid pressure between 1 and 3.5 bar
- An image forming composition having a viscosity of less than 100 cp
- A nozzle array
- A solenoid valve
- A plunger having a diameter of less than 2.5 mm and journaled for axial reciprocation between a rest and an operative position
- An electric coil under the influence of a magnetic field generating an electric current through a coil
- A valve head chamber having an outlet nozzle bore
- A fluid flow path

Art Unit: 2853

- A plunger of a unitary construction made from an electromagnetically soft material having a saturation flux density greater than 1.4 Tesla, a coercivity of less than 0.25 ampere per meter, and a relative permeability in excess of 10000
- A nozzle bore having a length to diameter ratio of less than 8:1

The copending application teaches the claim limitations of claims in the present application. While the wording is different, the limitations are substantially the same such that it constitutes double patenting.

Double Patenting

Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 7331654 in view of Rose et al. (US 2002/0118265 A1)

Both claim 1 of the present application and claims 1-11 of Patent No. 7331654 claim the following:

- Operating a drop on demand ink printer at a fluid pressure between 1 and 3.5 bar
- A nozzle array
- A solenoid valve
- A plunger having a diameter of less than 2.5 mm and journaled for axial reciprocation between a rest and an operative position
- An electric coil under the influence of a magnetic field generating an electric current through a coil
- A valve head chamber having an outlet nozzle bore

Art Unit: 2853

- A fluid flow path
- A plunger of a unitary construction made from an electromagnetically soft material having a saturation flux density greater than 1.4 Tesla, a coercivity of less than 0.25 ampere per meter, and a relative permeability in excess of 10000
- A nozzle bore having a length to diameter ratio of less than 8:1

US Patent No. 7331654 does not disclose a fluid containing a viscosity of less than 100 cp.

Rose et al. disclose a viscosity of less than 100 cp [0032]. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the structure taught by 7331654 with the ink of Rose et al. in order to provide an ink that has strong fastness to washing and weathering. It is well known in the art to use inks of different viscosities in a printer.

Claims 1-4, 6, and 7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 and 28-44 of copending Application No. 10/520912. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims hold the same structure as the claimed invention in different embodiments. Arguments for this double patenting rejection are stated above.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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Claims 1-4, 6, and 7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 41-57 of copending Application No. 10/504474. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims hold the same structure as the claimed invention. Arguments for this double patenting rejection are stated above.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAURA E. MARTIN whose telephone number is (571)272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. E. M./
Examiner, Art Unit 2853

Laura E. Martin

/Manish S. Shah/
Primary Examiner, Art Unit 2853